

CLAIMS

1. An antibody or binding portion thereof or probe recognizing a grapevine leafroll virus helicase, RNA-dependent RNA polymerase, hsp70-related, or hsp-90 related protein or polypeptide.
2. The antibody of claim 1, wherein said antibody recognizes a grapevine leafroll virus helicase protein or polypeptide.
3. The antibody of claim 2, wherein said helicase protein or polypeptide has a molecular weight of about 146 to about 151 kDa.
4. The antibody of claim 2, wherein said helicase protein or polypeptide is encoded by a nucleic acid sequence comprising SEQ ID NO:1.
5. The antibody of claim 2, wherein said helicase protein or polypeptide comprises the amino acid sequence of SEQ ID NO:2.
6. The antibody of claim 1, wherein said antibody recognizes a grapevine leafroll virus RNA-dependent RNA polymerase protein or polypeptide.
7. The antibody of claim 6, wherein said RNA-dependent RNA polymerase protein or polypeptide has a molecular weight of about 59 to about 63 kDa.
8. The antibody of claim 6, wherein said RNA-dependent RNA polymerase protein or polypeptide is encoded by a nucleic acid sequence comprising SEQ ID NO:3.

9. The antibody of claim 6, wherein said RNA-dependent RNA polymerase protein or polypeptide comprises the amino acid sequence of SEQ ID NO:4.

10. The antibody of claim 1, wherein said antibody recognizes a grapevine leafroll virus hsp70-related protein or polypeptide.

11. The antibody of claim 10, wherein said hsp70-related protein or polypeptide has a molecular weight of about 57 to about 61 kDa.

12. The antibody of claim 10, wherein said hsp70-related protein or polypeptide is encoded by a nucleic acid sequence comprising SEQ ID NO:5.

13. The antibody of claim 10, wherein said hsp70-related protein or polypeptide comprises the amino acid sequence of SEQ ID NO:6.

14. The antibody of claim 1, wherein said antibody recognizes a grapevine leafroll virus hsp90-related protein or polypeptide.

15. The antibody of claim 14, wherein said hsp90-related protein or polypeptide has a molecular weight of about 53 to about 57 kDa.

16. The antibody of claim 14, wherein said hsp90-related protein or polypeptide is encoded by a nucleic acid sequence comprising SEQ ID NO:7.

17. The antibody of claim 14, wherein said hsp90-related protein or polypeptide comprises the amino acid sequence of SEQ ID NO:8..

18. An antibody that recognizes a protein or polypeptide encoded by the nucleic acid sequence of SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, or SEQ ID NO:23.

19. The antibody of claim 18, wherein said protein or polypeptide comprises the amino acid sequence of SEQ ID NO:12.

20. The antibody of claim 18, wherein said protein or polypeptide comprises the amino acid sequence of SEQ ID NO:14.

21. The antibody of claim 18, wherein said protein or polypeptide comprises the amino acid sequence of SEQ ID NO:16.

22. The antibody of claim 18, wherein said protein or polypeptide comprises the amino acid sequence of SEQ ID NO:18.

23. The antibody of claim 18, wherein said protein or polypeptide comprises the amino acid sequence of SEQ ID NO:20.

24. The antibody of claim 18, wherein said protein or polypeptide comprises the amino acid sequence of SEQ ID NO:22.

25. The antibody of claim 18, wherein said protein or polypeptide comprises the amino acid sequence of SEQ ID NO:24.